



# **FREDERICK COUNTY PLANNING COMMISSION**

## **February 11, 2015**

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**TITLE:** Frederick County Public Safety Training Facility—Communication Tower

**FILE NUMBER:** SP-08-05, AP 14787 (APFO 14788, FRO 14789)

**REQUEST:** Site Development Plan Approval

The Applicant is requesting Planning Commission non-binding review and comment on a 161'-6" communication tower, with a 5,250 square foot (70 ft. x 75 ft.) equipment compound on a portion of the Frederick County Public Safety Training Facility site.

### **PROJECT INFORMATION:**

**ADDRESS/LOCATION:** 5370 Public Safety Place, located off of Reichs Ford Road, west of Reels Mill Road

**TAX MAP/PARCEL:** Tax Map 78, Parcels 60, 61 & 710  
**COMP. PLAN:** Institutional  
**ZONING:** Agriculture  
**PLANNING REGION:** New Market  
**WATER/SEWER:** W-PS & W-3; S-PS & S4

### **APPLICANT/REPRESENTATIVES:**

**APPLICANT:** Milestone Communications  
**OWNER:** Frederick County  
**ENGINEER:** Entrex Communication Services, Inc./Network Building & Consulting, LLC  
**ARCHITECT:** N/A  
**ATTORNEY:** N/A

**STAFF:** Tolson DeSa, Principal Planner II

### **ATTACHMENTS:**

Exhibit 1-Site Plan Rendering  
Exhibit 2-Public Safety Training Facility communications siting memo, dated August 21, 2014.  
Exhibit 3- Photo-simulation of tower  
Exhibit 4 – Supplemental Information

## STAFF REPORT

### **ISSUE**

#### **Development Request**

The Applicant is submitting a site development plan for non-binding review and comment from the Planning Commission for the construction of a 161'-6" communication tower with a 70-ft. x 75-ft. fenced equipment compound on the County's 117-acre Public Safety Training Facility property located off Reichs Ford Road. The tower will primarily be utilized for local, state and federal E-911 back-up and other needs of the County's Emergency Communications Division, the tower has the potential to house commercial telecommunication carriers as well. The 161'-6" tower plus a 4-ft. lightning rod, results in a total height of tower and accessories of 165'-6". The 70-ft. x 75-ft. equipment compound area around the tower will be surrounded by an 8-ft. tall, chain-link fence. Equipment cabinets within the fenced compound do not show heights greater than 8 feet.

The Zoning Administrator has determined that the proposed lattice tower falls under Section §1-19-4.110 of the Zoning Ordinance (Exemption of Essential Services) Subsection (B) Governmental Utility, and is presented for the Planning Commission's "nonbinding review and comment".

### **BACKGROUND**

#### **Development History**

In 2011, the County entered into a lease agreement with Milestone Communications to develop commercial carrier wireless services at County-owned facilities and properties.

In April of 2014, the Division of Emergency Management was authorized by the Board of County Commissioners to utilize a portion of the parcel of County Government owned land to establish a public safety communications tower site as a component of the County's public safety trunked radio communications system, and to support the relocation of the County's back-up 911 Center and Emergency Operations Center. The County's integrated public safety trunked radio system is an essential governmental (public safety) utility, as defined in the Frederick County Zoning Ordinance, supporting mission critical wireless voice and data communications for municipal, county, state, and federal agencies serving the citizens of Frederick County. The proposed lattice tower will include Verizon Wireless as the anchor tenant, with space reserved for county public safety communications, as well as for future commercial telecommunications carriers.

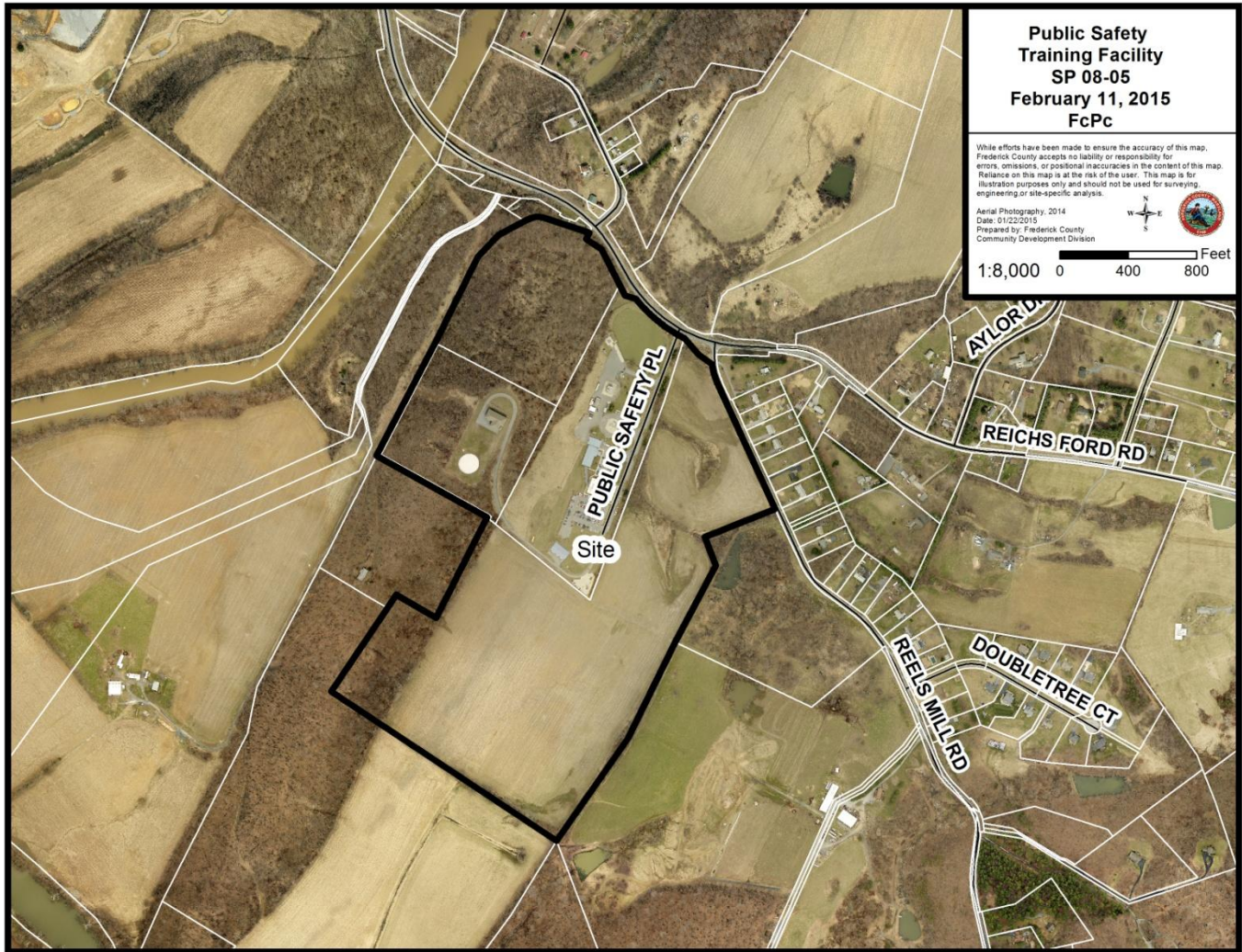
#### **Existing Site Characteristics**

The County's Public Safety Training Facility—zoned Agricultural—(See Graphic #2 below) is located off of Reichs Ford Road, west of Reels Mill Road. The Public Safety Training Facility (PSTF) is utilized to train individuals in "real world situations", with the primary focus being on safety. Learning emergency rescue skills in a "safe" environment allows emergency rescue personnel to respond safely to a real emergency scene. The Facility also houses the offices of the County Division of Fire and Rescue Services.

The Public Safety Training Facility Site is comprised of 3 parcels. The lattice tower will be located on one of the parcels. County Staff requested that the Applicant submit an Addition Plat (AP #14942) in conjunction with the Site Development Plan in order to consolidate the location of the proposed tower, equipment compound and potential fall radius.

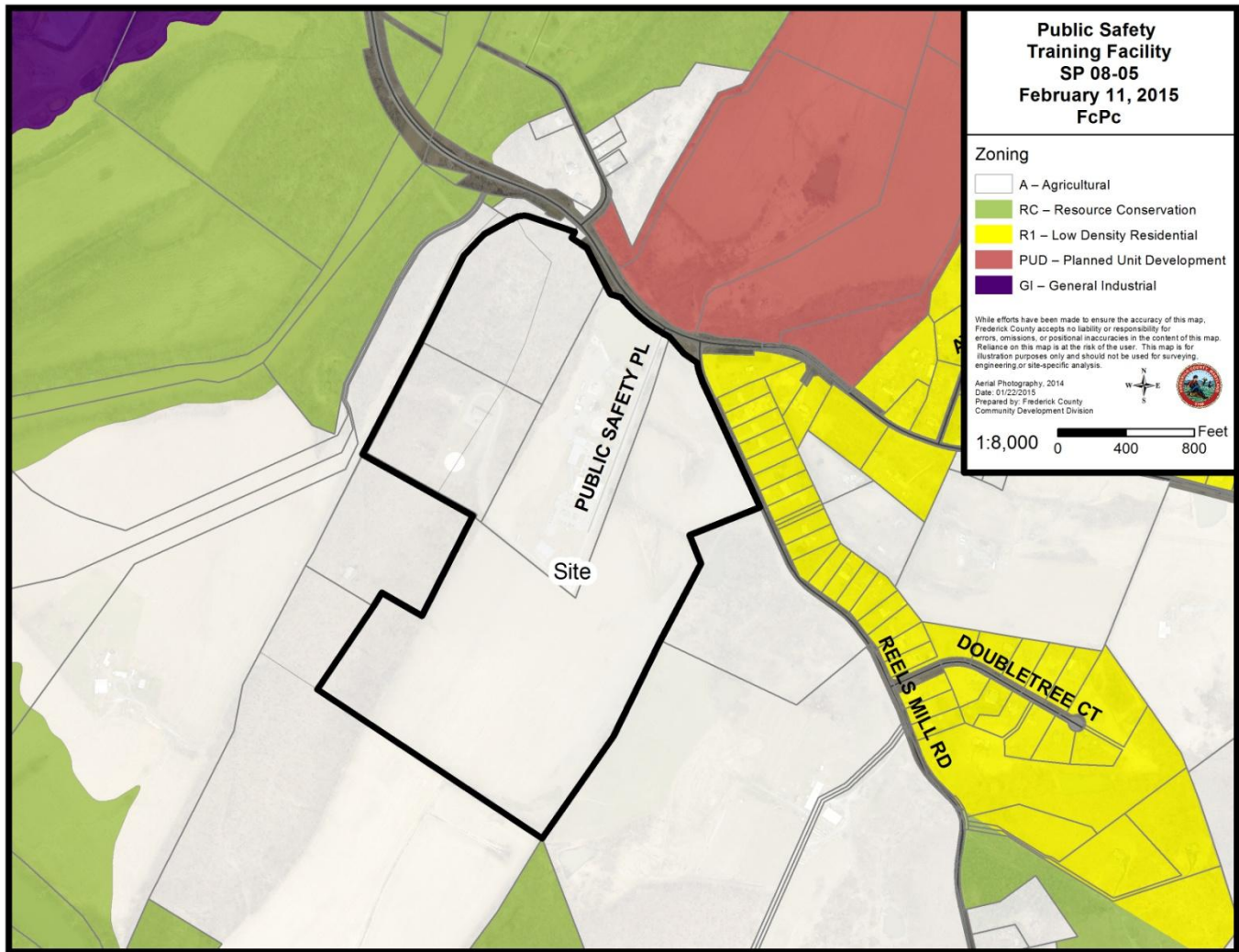
The location of the proposed lattice tower is approximately 1,000 feet south of the main entrance to the facility, approximately 523 feet east of the western property boundary, adjacent to an existing County owned and operated utility building and water tower. See Graphic #1 below.

Graphic #1





Graphic #2



### Summary of Development Standards Findings and Conclusions

Based on the determination by the Zoning Administrator the application is subject to Section §1-19-4.110 of the Zoning Ordinance (Exemption of Essential Services) Subsection (B), and is therefore being presented for Planning Commission nonbinding review and comment. However, staff has utilized the criteria contained in §1-19-8.332 (Communication Towers in the Resource Conservation and Agricultural Districts) and §1-19-8.420 (Communication Towers – Scope and Criteria) of the Zoning Ordinance in the evaluation of the Public Safety Training Facility lattice tower site plan.

### Detailed Analysis of Findings and Conclusions

Site Development Plan evaluation and review was based upon the criteria found in §1-19-3.300.4 Site Plan Review Approval, as well as Sections §1-19-8.332 and §1-19-8.420 of the Frederick County zoning ordinance.

**Site Development §1-19-3.300.4 (A):** Existing and anticipated surrounding land uses have been adequately considered in the design of the development and negative impacts have been minimized through such means as building placement or scale, landscaping, or screening, and an evaluation of lighting. Anticipated surrounding uses shall be determined based upon existing zoning and land use designations.

## Findings/Conclusions

### 1. Dimensional Requirements/Bulk Standards §1-19-6.100, §1-19-8.332, §1-19-420.2:

Use Classification	Minimum Lot Area	Lot Width	Setback values	Height
<i>Communications Tower</i>	N.A.	N.A.	<i>§1-19-8.332 Setbacks from all properties shall be a distance not less than 1 foot for every foot of tower height, but in no case less than 300 feet from any adjoining residential structure.</i>	<i>§ 1-19-8.332. The tower height may exceed the maximum height permitted within the RC and A Districts after a determination by the approving body that its visual profile and appearance would make no substantial change in the character of the area, provided, however, that in no event shall the maximum allowed tower height exceed 199 feet.</i>

The Applicant has indicated a fall zone equal to the total height of the tower, 165'-6". Lattice tower setbacks vary from property lines (523 ft. to 1397 ft.) and the water utility building (350 ft.). The proposed location of the tower exceeds the minimum required setbacks and is more than 300 feet from all property lines. The maximum height in the Agricultural zoning district is 30'. The proposed tower exceeds the 30' maximum in the district but does not exceed the maximum tower height of 199'. The Applicant has submitted information in the form of a siting memo (see Exhibit 2) that describes the potential visual impact of the tower on the surrounding area. Photo-simulations of the tower's location were made from four vantage points within a 0.50-mile radius and are included as Exhibit #3.

2. **Landscaping §1-19-6.400:** The site is surrounded by existing mature deciduous and evergreen tree species. Therefore Staff is not requesting any additional landscaping. The existing landscaping is approximately 40' tall and will minimize the visual impact of the compound.
3. **Lighting §1-19-6.500:** The Applicant is not proposing any lighting, other than Federal Aviation Administration (FAA) emergency lighting requirements.

**Transportation and parking §1-19-3.300.4 (B):** *The transportation system and parking areas are adequate to serve the proposed use in addition to existing uses by providing safe and efficient circulation, and design consideration that maximizes connections with surrounding land uses and accommodates public transit facilities. Evaluation factors include: on-street parking impacts, off-street parking and loading design, access location and design, vehicular, bicycle, and pedestrian circulation and safety, and existing or planned transit facilities.*

Access to the Public Safety Training Facility and the future lattice tower is from Reichs Ford Road, an existing collector status roadway on the Comprehensive Plan. The proposed lattice tower is an un manned facility, however, it will be located interior to the site with several parking areas available for construction or related maintenance. The site plan complies with the requirements listed in 1-19-3.300.4(B).

**Public Utilities §1-19-3.300.4 (C):** *Where the proposed development will be served by publicly owned community water and sewer, the facilities shall be adequate to serve the proposed development. Where proposed development will be served by facilities other than publicly owned community water and sewer, the facilities shall meet the requirements of and receive approval from the Maryland Department of the Environment/the Frederick County Health Department.*

## **Findings/Conclusions**

1. The proposed lattice tower is an un-manned facility, so no water or sewer services are required for the proposed use. The site plan complies with the requirements listed in 1-19-3.300.4(C).

**Natural Features §1-19-3.300.4 (D):** *Natural features of the site have been evaluated and to the greatest extent practical maintained in a natural state and incorporated into the design of the development. Evaluation factors include topography, vegetation, sensitive resources, and natural hazards.*

There is an area of wetlands as well as a band of wet and flooding soils located on the eastern portion of the site, although this area is not being disturbed by the proposed development. The site plan complies with the requirements listed in 1-19-3.300.4(D).

**Common Areas §1-19-3.300.4 (E):** *If the plan of development includes common areas and/or facilities, the Planning Commission as a condition of approval may review the ownership, use, and maintenance of such lands or property to ensure the preservation of such areas, property, and facilities for their intended purposes.*

This site is a government owned and operated facility there are no common areas proposed on this site. The site plan complies with the requirements listed in 1-19-3.300.4(E).

The Applicant has satisfactorily addressed the majority of the substantive items contained in §1-19-8.332 and §1-19-8.420, including the following:

- Property line and structure setbacks
- Photo documentation/simulation of the tower's presence on the landscape
- Height requirements
- NEPA/ SHPO Submissions/Correspondence with Maryland Historic Trust/Justification statement as to why the site was selected
  - The Applicant submitted a memo dated August 21, 2014 which provides the justification for the lattice tower at this location. See Exhibit #2
- Propagation studies that show service area and system coverage
- Screening and fencing
- Antenna co-location potential
- Tower placement within or adjacent to mature vegetation and down slope from ridge lines

The Zoning Administrator has provided direction that posting of a monetary guarantee for future removal of the tower is not applicable to this application.

Although this Site Plan review is non-binding, Staff notes that the Applicant has not addressed the requirement to install a 6 sq. ft. sign attached to the equipment compound fence as required in §1-19-8.420.2 ("Criteria"). The sign shall identify the tower owner, providers, and a telephone number of a person to call for site emergencies.

This sign is required to be provided to address public safety issues and provide for proper notification in emergency situations.

It should be noted that County Staff coordinated over several months with Staff from the City of Frederick when reviewing the proposed lattice tower application. City Staff did initially express concerns regarding the proposed tower. As part of the overall review process, the Federal Aviation Administration (FAA) and Maryland Aviation Administration reviewed the proposed tower. As a result of that review the FAA made a determination of No Hazard to air navigation and the MAA deferred to the detailed analysis and findings of the FAA. The City has also deferred to the FAA's decision and subsequent MAA position on

the matter.

### Other Applicable Regulations

**Stormwater Management – Chapter 1-15.2:** The amount of grading and clearing for the project is just over 2,500 square feet; therefore the project is exempt from Stormwater Management requirements per the 2000 Maryland SWM Design Manual and the SWM Act of 2007.

### **APFO – Chapter 1-20:**

1. **Roads.** The project is exempt from APFO testing because it would generate less than 6 peak hour trips and there are no existing escrow accounts in the area of this site plan proposal.
2. **Schools.** This Site is a non-residential use and therefore is exempt from school testing.
3. **Water/Sewer.** The proposed lattice tower is an un-manned facility, so no water or sewer services are required for the proposed use and therefore is exempt from water and sewer testing.

**Forest Resource – Chapter 1-21:** This project is subject to FRO. A Combined Preliminary/Final FRO plan has been submitted and is currently under review. The development area contains 0.22 acres of forest. No specimen trees are located within the area of disturbance. The Applicant proposes to mitigate the 0.25 acre FRO requirement by purchasing forest banking credits. The FRO plan must be approved prior to site plan approval. FRO mitigation must be provided prior to applying for grading or building permits, whichever is applied for first.

**PROPOSED 18-HOLE GOLF COURSE**

**CLUBHOUSE & PARKING LOT**

**HOLES 1-18**

NO.	TYPE	PAR	YARDS
1	DRIVER	4	350
2	IRON	3	180
3	IRON	4	220
4	WEDGE	3	150
5	WEDGE	4	200
6	WEDGE	3	120
7	WEDGE	4	180
8	WEDGE	3	100
9	WEDGE	4	150
10	WEDGE	3	120
11	WEDGE	4	180
12	WEDGE	3	100
13	WEDGE	4	150
14	WEDGE	3	120
15	WEDGE	4	180
16	WEDGE	3	100
17	WEDGE	4	150
18	WEDGE	3	120

**SCALE: 1" = 100'**

**LEGEND:**

- PROPOSED 18-HOLE GOLF COURSE
- CLUBHOUSE & PARKING LOT
- HOLES 1-18
- PROPOSED 100' WIDE BUFFER ZONE
- PROPOSED 100' WIDE BUFFER ZONE





**FREDERICK COUNTY GOVERNMENT  
DIVISION OF EMERGENCY MANAGEMENT**

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*County Manager*

TO: Ms. Beth Cole, Maryland Historic Trust  
FROM: John E. (Jack) Markey, Director, Division of Emergency Management  
SUBJECT: Public Safety Training Facility communications tower siting  
DATE: August 21, 2014

The decision to propose siting of a public safety communications tower at the Frederick County, MD Public Safety Training Facility located at 5370 Public Safety Place in Frederick, MD was based on several factors, which I will describe below. In the end, the proposed site was selected due to satisfying the largest number of constraints, while minimizing costs and negative impacts.

**History:**

The area comprising the Frederick County, MD Public Safety Training Facility (PSTF) at 5370 Public Safety Place, Frederick, MD 21704, and the area south and east of the City of Frederick along the I-270 and MD Route 85 corridor is currently underserved, and in some cases is not served by Frederick County's public safety radio system. A project to consolidate Frederick County public safety operational agencies at the PSTF campus, including the relocation of the County's back-up 9-1-1 Center and primary Emergency Operations Center to the PSTF, was approved by the Board of County Commissioners in 2013. The most cost effective and secure location to establish the required public safety radio system transmitter and receiver location to improve the public safety radio system coverage, and to provide point-to-point microwave network connectivity between the County's public safety radio system sites including the back-up 9-1-1 Center and Emergency Operations Center was determined to be at Latitude: N 39° - 22' - 56.233" NAD 83 Longitude: W 77° - 22' - 44.397" NAD 83 which is located on the ridge that runs along the western PSTF property boundary. (See FIGURE 1)

Utilizing an alternate location other than the proposed tower location on the PSTF campus would cause additional, significant cost and complexity increases, including a more than doubling of the physical tower height to provide equivalent microwave connectivity and radio frequency coverage. Using alternate locations on the campus also would potentially impact wetland or storm drainage areas. Utilizing an alternative location off of the PSTF campus would require additional land acquisition or lease costs, as well as increased terrestrial networking costs to reliably and redundantly connect the remote tower site back to the PSTF campus. These costs would be in addition to still having any alternate location still be required to be able to link to the County's point-to-point microwave radio network that serves as the public safety radio system backbone.

#### Inadequate public safety radio coverage at the Public Safety Training Facility

Since moving in to the PSTF, public safety agencies have had substandard County radio system coverage in operational training buildings, and non-existent coverage in the majority of the main administrative building that serves as headquarters for the Division of Fire and Rescue Services, Division of Emergency Management, and Sheriff's Office training section. This is due to the significant terrain blockage caused by the ridge bordering the west edge of the property as well as the distance between the site and the closest County radio system towers. A workaround has been utilized to facilitate improved, though still not satisfactory, coverage on the training facility grounds. A proposal to resolve the issue just within the 5370 Public Safety Place administrative building by installing an interior bi-directional amplifier system was estimated to cost over \$300,000 in 2010. A more cost-effective long-term solution was determined to be the planning of a full radio system site to strengthen coverage in the area of the PSTF. In 2010, no specific radio site had yet been identified.

#### Inadequate public safety radio coverage southeast of City of Frederick

The area southeast of the City of Frederick, both in the industrial Route 85 corridor as well as the Interstate 270 corridor towards Urbana and the Montgomery County line, is part of an identified growth area within Frederick County. Providing improved County radio system coverage in this identified area was a component of the master system design that was drafted prior to initiating the 2010 County radio system build. The exact location of proposed towers to improve coverage was not definitively determined in 2010, although coverage maps from several potential sites were evaluated on the southeast side of Frederick and near Urbana.

#### Need for microwave and fiber connectivity for relocated 9-1-1 facility and County Emergency Operations Center.

The Board of County Commissioners authorized a project to consolidate certain "like" County operations onto several common campus locations. The PSTF is one of those campuses, and was selected to be the home of the Division of Emergency Management; the County's new back-up 9-1-1 facility; and the County's Emergency Operations Center in 2013. The capacity of the former home of the back-up 9-1-1 center and Emergency Operations Center had been exceeded after thirty-two years of occupancy, and sufficient space was identified on the campus to accommodate the consolidation.

Appropriate locations for the purpose of the consolidation required:

1. Access to highly reliable, redundant terrestrial information technology networks including private, County, State, and Federal;
2. Access to the County's public safety radio system's point-to-point microwave network, or the ability to connect to the existing microwave ring;
3. Full back-up power capabilities;
4. Campus and tower compound security access control;
5. Sufficient parking for operational personnel;
6. Ability to grow and adapt as demand changes over the anticipated life of the facility

The PSTF met all of the requirements for the consolidation, with the exception of having access to the County's microwave radio network, which is one of the primary purposes for the proposed public safety communications tower.

Opportunity to meet multiple demands with a single tower structure, and partner with the private sector to meet the County's needs as well as provide a location for all major commercial wireless carriers to serve the area

Establishing wide area communications systems requires significant capital and operational investments by proponents, as well as compliance with a number of municipal, county, State, and Federal regulations. These regulations seek to ensure the safety of the facilities, and to help minimize their potential negative impact on communities. The opportunity arose in the case of the proposed PSTF tower to meet both the County's need for a public safety communications tower, including the establishment of the point to point connections to the County microwave network ring and County public safety radio system transmitter and receiver facilities to improve coverage in the area southeast of the City of Frederick and on PSTF campus itself. While planning the tower site proposal the County sought to determine whether there was a need for enhanced commercial wireless service in the same area. Upon discovering that the answer was yes, the County pursued the opportunity to minimize the number of tower structures in the community; reduce the costs and complexities of establishing multiple sites serving individual needs; and ultimately to plan to meet the current and future needs of the commercial wireless carriers in a manner that minimizes costs to the taxpayers, and the proliferation of tower sites in the community. With over 82% of the 9-1-1 calls answered by Frederick County originating from commercial wireless phones, the enhancement of the commercial wireless component of the project will also have a public safety benefit to the citizens who reside within the service area of the tower.

Summary:

Frederick County has sought to address its responsibilities for ensuring public safety communications service in Frederick County in a manner that minimizes negative impacts on the community's cultural, historical, environmental and other protected resources as required under the National Historic Preservation Act, Section 106 and the National Environmental Policy Act while also balancing its responsibilities to Frederick County taxpayers. In reviewing the proposed tower location for potential adverse impacts to historical and cultural resources, Frederick County and our project partners have used the guidance from the Maryland Historical Trust who serves as Maryland's State Historic Preservation Office found at [http://mht.maryland.gov/documents/PDF/Compliance\\_guidelines\\_FCC.pdf](http://mht.maryland.gov/documents/PDF/Compliance_guidelines_FCC.pdf). This guidance is based on the *Nationwide Programmatic Agreement for Review of Effects on Historic Properties For Certain Undertakings Approved by the Federal Communications Commission (NPA)*, which went into effect March 7, 2005. In accordance with that guidance the County considered the potential adverse effects within area of potential effect for visual impacts which is the listed within the NPA as ½ mile for a tower proposed to be less than 200ft in height. There are no historical structures listed on the National Register of Historic Places or within the MD Inventory of Historic Properties within the ½ mile APE. Within the ½ mile APE there does exist 25 acres of unimproved, mostly wooded land, on which exists one modern-era brick residential structure.

This area of land within the ½ mile APE comprises less than 1% of the Monocacy Battlefield's over 1,700 acre area and is located on the northern boundary of the property, away from the primary battlefield areas and historic features. The closest walking trail (Gambrill Mill Trail) within the Monocacy Battlefield is over one mile from the proposed tower site, with the tower site not being visible due to terrain and tree cover.

In summary, based on these details, the project's proponents do not believe that the proposed tower construction diminishes the integrity of the Monocacy Battlefield property's significant historic features and the proposal should be determined to have "no adverse effect" on historic properties.



**Photo 1:**  
**Visitor Center**  
**Parking Lot**

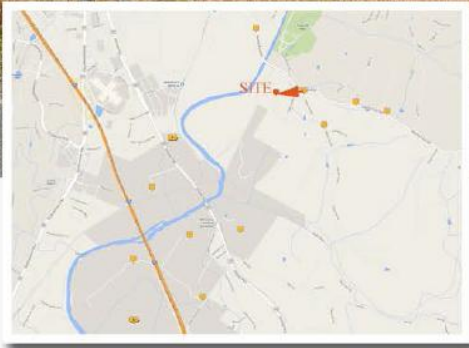
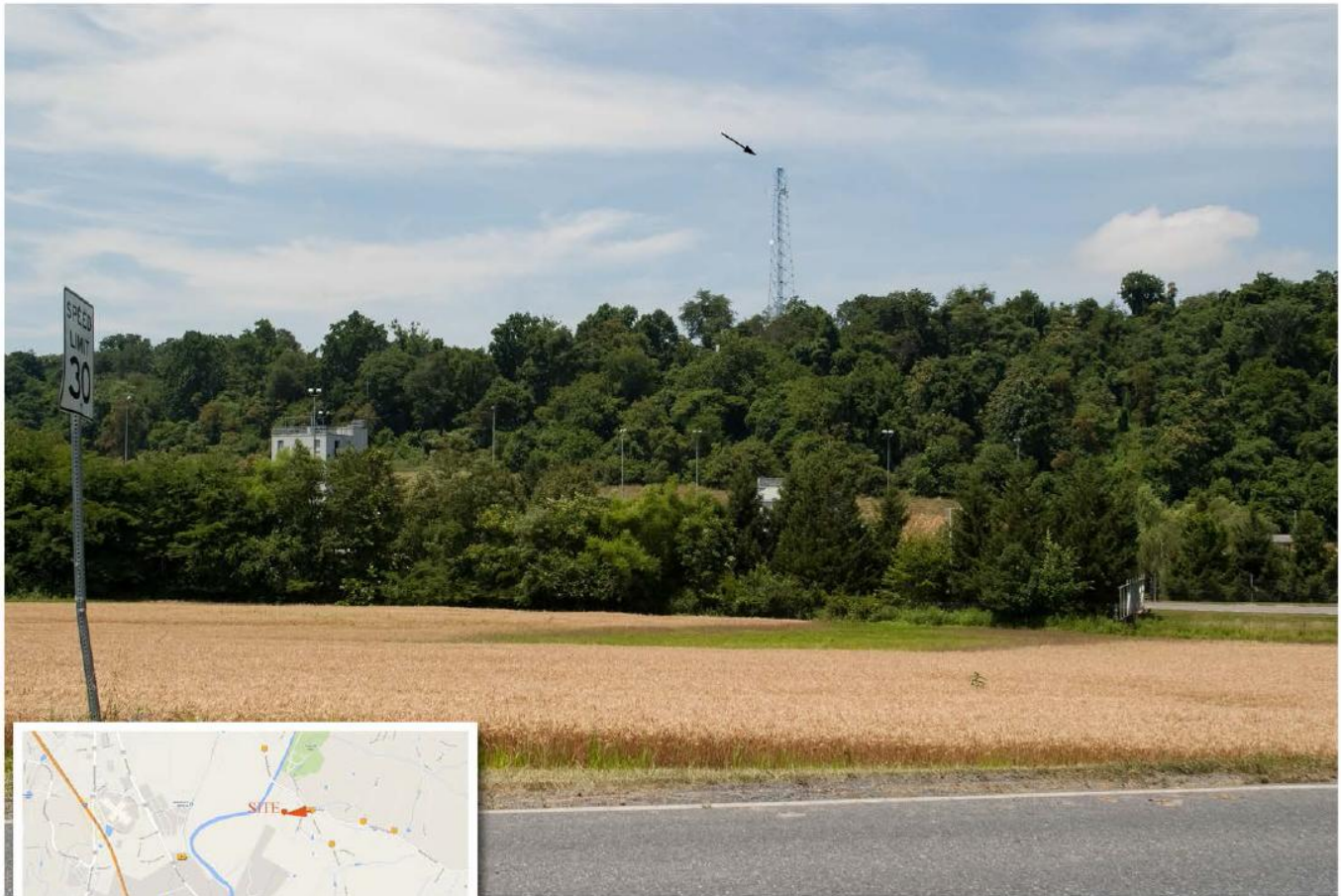
## **FREDERICK COUNTY PUBLIC SAFETY FACILITY PROPOSED TOWER**





## FREDERICK COUNTY PUBLIC SAFETY FACILITY PROPOSED TOWER

Photo 2:  
From Visitor Center  
Viewing Deck



**Photo B:**  
**Reels Mill Rd**  
**at Reich's Ford**  
**Road**

## **FREDERICK COUNTY PUBLIC SAFETY FACILITY PROPOSED TOWER**